Appl. No.: 10/519,635 Amdt. dated June 30, 2006

Reply to Office Action of April 24, 2006

Amendments to the Claims:

1-10. (Cancelled)

11. (New) A refining surface of a refiner, the refiner having two opposed refining surfaces coaxially-disposed along an axis, with at least one of the refining surfaces being configured to rotate about the axis in a rotation direction, and the refining surfaces being configured to receive a lignocellulose material therebetween for defibering thereof, the refining surface comprising:

a plurality of radially-extending bars defining grooves between adjacent bars, each bar having a radially-extending length and an angularly-extending width, at least one of the bars including a bevel extending from a leading edge of the bar, the leading edge being defined with respect to the interaction of the bevel with the opposed refining surface, the bevel extending across the bar for less than the entire width thereof, the remainder of the width of the bar being substantially parallel to the refining surface, the leading edge of the bevel being further configured such that, as an opposed bar of the opposed refining surface approaches axial coincidence with the bevel, an increasing force is generated substantially perpendicularly to the refining surface and axially outward with respect to the opposed refining surfaces.

- (New) A refining surface according to Claim 11, wherein less than all of the plurality of bars includes the bevel.
- 13. (New) A refining surface according to Claim 11 wherein the bevel is configured so as to define a ratio between a maximum clearance (H_1) and a minimum clearance (H_2) between bars of the opposed refining surfaces, $H_1/H_2 = 2.2 \pm 50\%$.

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14. (New) A refining surface according to Claim 13, wherein the ratio is H_1/H_2 = 2.2 \pm 20%

15. (New) A refining surface according to Claim 13, wherein the ratio is $H_1/H_2 = 2.2$.

16. (New) A refining surface according to Claim 11, wherein the bevel extends for less than the entire length of the bar.

17. (New) A refining surface according to Claim 11, wherein at least one of the bars includes a plurality of bevels, with the bevels extending for less than the entire width of the bar, and each bevel having a different slope with respect to the bar.

18. (New) A refining surface according to Claim 17, wherein the bevels are serially disposed across the bar, for less than the entire width thereof, such that the slope decreases with each bevel, each bevel being successively disposed axially inward with respect to the opposed refining surfaces.

19. (New) A refining surface according to Claim 17, wherein the bars spaced apart in an angular direction about the refining surface alternatingly include bevels having different slopes.

20. (New) A refining surface according to Claim 11, wherein at least one of the bevels defines a slope with respect to the bar, the slope being configured to vary along the length of the bar.